ALBERTA PUBLIC SAFETY SERVICES

JUNE 1989
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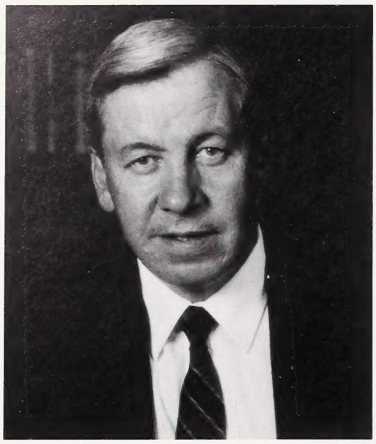
AGENCY INSIGHT

APSS thanks Marvin Moore



The Hon. Marvin Moore was honored at a farewell luncheon held by Alberta Public Safety Services (APSS) on March 28. Mr. Moore, who had been Minister of APSS and Solicitor General since last September, is retiring from provincial politics and did not run for office in his riding of Smoky River in the election on March 20.

It was the second time APSS has said thank you and farewell to Mr. Moore, who has been the Agency's minister for two different terms, the first from 1979 to 1986. During this time, he helped guide the Transportation of Dangerous Goods Control Act and its Regulations through the legislative process, and also the new Public Safety Services Act. The latter is widely considered to be the most advanced legislation of its type in the country.

Mr. Moore was first elected to the provincial legislature in 1971, and was a cabinet minister for 14 years. His cabinet portfolios have included Alberta Agriculture, Municipal Affairs, Transportation, Hospitals and Medical Care, and Solicitor General.

In paying tribute to Mr. Moore at his farewell luncheon, Mark Egener, APSS Managing Director, said: "The Agency and the Government of Alberta will sincerely miss the experienced and wise guidance provided by Mr. Moore. All the staff of APSS join me in wishing him success and happiness in his next endeavour."

Insight is published quarterly by Alberta Public Safety Services (APSS). The publication aims to inform readers about current developments concerning topics which relate to the mandate of APSS: to prepare for, respond to and follow up on man-made or natural disasters in Alberta. This mandate includes activities in the areas of disaster services and management, as well as the handling, offering and transporting of dangerous goods.

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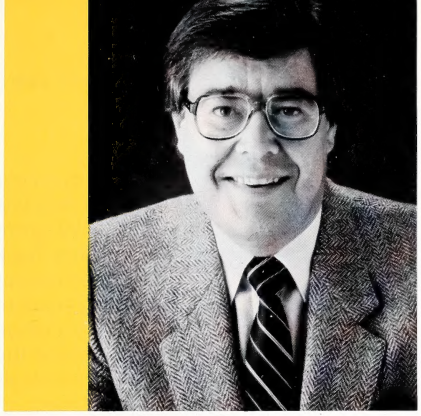
In This Issue . . .

On the Cover: An ACCESS NETWORK prodution crew captures a tense moment for the docu-drama Emergency Medical Update: Critical Incident Stress. The 28-minute television program was a joint project of the Alberta Professions and Occupations Bureau and ACCESS NETWORK, with support from Edmonton first response agencies and Alberta Public Safety Services. See story inside. Photo courtesy of ACCESS NETWORK.

Alberta
PUBLIC SAFETY SERVICES



Meeting the Minister

The Hon. Ken Kowalski was appointed the new Minister of Alberta Public Safety Services in April. At the same time, he also became the province's new Minister of Public Works, Supply and Services, Lotteries and the Public Affairs Bureau.

Mr. Kowalski is already familiar with public safety issues since he previously served as Minister for APSS from May 1986 to September 1988, and was instrumental in seeing the Dangerous Goods Control program through its early stages of implementation. He was also Minister of the Environment during the same period. Mr. Kowalski has served as the MLA for Barrhead since 1979.

In this first Public Safety Forum, *Insight* spoke with Mr. Kowalski about the highly-publicized chemical spills which occurred on several Alberta highways in early spring, and other topical subjects.

Mr. Kowalski, Alberta Public Safety Services wishes to welcome you back as its minister. Are you happy to have this responsibility again?

Yes, I am extremely happy to be working with Alberta Public Safety Services again. Any government has a basic responsibility to take care of its citizens. We in Alberta have a whole range of services which include health care and education. Public safety is a fundamental cornerstone of these services. Alberta Public Safety Services is, and will remain a separate entity with a specific mandate to plan for, respond to, and co-ordinate the relief efforts after any manmade or natural disaster.

In the last few weeks there have been one major and five smaller but serious chemical spills on our highways. Are you satisfied that the regulations controlling the transportation of dangerous goods are working as they were intended to work?

Yes, public safety is the prime consideration. Our record in Alberta is exemplary. We have well-trained people who respond quickly and effectively. Now that the regulations covering the transportation of dangerous goods are being rigorously enforced, more and more spills are being reported, whereas before I fear that this was not always the case. I believe that now very few spills go unreported and this makes me very satisfied. When we know of a spill, it can be cleaned up. It is not knowing that could cause us all concern.

We are now approaching the summer storm and flood season. Are we prepared to respond to them?

We have learned real lessons in recent years after experiencing floods, tornadoes, electric storms and high winds. No two events are ever the same; every time we learn something new and then apply these new lessons to the next event. Our knowledge now helps us forecast accurately when river floods will occur. Mother nature will always have the final control, but we must be as prepared as we possibly can be. I am confident that with our dedicated staff, we can at the very least mitigate the most serious and devastating effect of these events, especially in the long term.

***Insight* is now distributed across North America and to many countries in Europe and Asia. Do you think Alberta can help other countries achieve public safety, and can we in Alberta learn from the experience of others?**

Yes, to both questions. Disasters are not confined to specific areas. We would expect to help with trained rescue personnel, dangerous goods inspectors and so on. Disasters know no boundaries; likewise the worldwide response to those in trouble knows no geographical limitations. We can help save lives, minimize the impact on people and save public cost by working together whenever our expertise can be of use to those who are suffering. In exactly the same way, we can and will learn from others, from wherever they may be in the world.

Are you pleased with the way in which Alberta is being recognized as one of the leaders in the field of public safety?

Absolutely. This leadership role is one that our Government wants to maintain and encourage. We can do this through education; we can do this by expanding contacts around the world. We have a lot to offer others wherever they may be, who, like us, are concerned with public safety. As I have said before, disasters — especially natural disasters — cross provincial and international boundaries. We are all, as citizens of the world, in this together. We do have some expertise, and if we can help anyone anywhere, then that is what we want to do. *Insight* will be, I am sure, a way to let people know what we can do to help others.

Report on a meeting of emergency preparedness officials from northwestern Canada and the U.S.

by Ray Langman, Executive Director, Disaster Services

In November 1988, a meeting of emergency officials from the northwestern states of the United States and the adjacent western provinces of Canada was convened at Coeur d'Alene, Idaho. The meeting was chaired by Darrell Manning, Idaho's Adjutant General and Chief of the Bureau of Disaster Services. In attendance were representatives from Idaho, Washington, Alaska, Alberta, British Columbia, Region Ten of the Federal Emergency Management Agency, plus the Emergency Preparedness Canada region of British Columbia and the Yukon.

The meeting was very useful with an exchange of views and experiences on a wide range of topics. Since the existing trans-border mutual aid agreements between the states, and between the states and adjoining provinces were all signed more than 10 years ago, everyone agreed it was time to review and re-sign the agreements to show commitment and to develop new ones where appropriate.

We were brought up to date on progress of the U.S. SARA Title III Legislation, the Emergency Planning and Community Right-to-Know Act of 1986. Under this authority, states are required to establish emergency response commissions to facilitate planning for emergency response to incidents involving hazardous materials. Working closely with the State Disaster Services/Emergency Management Agencies, the commissions have made the HAZMAT plan a part of the municipal plans in both Idaho and Washington. Idaho has developed planning guidance and a model annex for hazardous materials incident response. There was a good overview of fire suppression activities in Washington and Oregon.

A representative from the Federal Emergency Management Agency gave an update on the threat and national response planning for a nuclear attack on the U.S. — basically protection and recovery from fallout. Another representative reported some measurable success with precipitation from cloud seeding, particularly in Utah during the winter months, which improved the snow pack for spring runoff.

Earthquake mitigation and planning activities were discussed. This was of greater interest to Idaho, Washington, British Columbia and Alaska. All are developing school safety programs for earthquake events.

The discussions reinforced the notion that many of our hazards are similar, and despite differences in the legal framework and jurisdictional structures, there is much we could learn from each other and many ways we could assist in times of need. All the participants agreed that these meetings should be conducted regularly at reasonable intervals, and should be augmented by joint exercises to define and demonstrate areas for mutual assistance. The next meeting is planned for the spring, 1990.

Coming Up in *Insight*

Toxic Spill

A report on the aftermath of a 800-litre spill of sodium dichromate northeast of Edmonton last March. The major part of the spill was concentrated along a 40-km section of highway, with smaller spills occurring all the way from Waskatenau to Fort McMurray.

MIACC Update

The latest news from the Major Industrial Accident Coordinating Committee, including reports from the three working groups recently set up in Alberta to investigate communications, legislation and hazard identification.

Transcaer Journey

Paul Chambers, project manager and Transcaer co-ordinator for Dow Chemical Canada Inc. Western Canada Division, will report back from a journey across two provinces this spring, when the Canadian Chemical Producers' Association went out on the road to discuss the safe transportation of chemicals with people in six communities.

Lessons from the Valdez

While Albertans need never worry about an ocean oil spill occurring here, there are many lessons to be learned about disaster management and mismanagement from the recent massive oil spill along the coast of Alaska. *Insight* will report on how the Norwegians respond to oil spills in the North Sea, as well as how Alberta Public Safety Services dealt with the sodium dichromate spill northeast of Edmonton last March.

You said it . . .

Congratulation on your new publication, *Insight*. We look forward to future coverage and a long life.

Karoline Baker,
Administrative Secretary,
Journal of Civil Defense
Starke, Florida

Just a quick note to tell you how very impressed I am with your new quarterly magazine, *Insight*. It is an extremely professional magazine both in content and presentation.

Congratulations on creating a superb new resource for all of us in emergency preparedness. I look forward to receiving future issues of *Insight*.

T. D'Arcy Finn, Q.C.
Executive Director,
Emergency Preparedness Canada
Ottawa, Ontario

The Transcaer program of the Canadian Chemical Producers' Association focuses on the key areas essential to ensure the safe transportation of chemicals.

Transcaer pilot project wraps up in six Western communities

by Paul Chambers,
Project Manager and Transcaer
Co-ordinator for
Dow Chemical Canada Inc.,
Western Canada Division

The prairie regional steering committee of the Canadian Chemical Producers' Association (CCPA) has just completed a major pilot project for its upcoming Transcaer program in Western Canada.

Transcaer — Transportation Community Awareness and Emergency Response — focuses on the key areas essential to ensure the safe transportation of chemicals, and is aimed at improving communications with communities which are on chemical transportation routes. The pilot project is the first of its kind in Canada, and will likely provide the model for the CCPA's Transcaer program in other regions.

During the pilot project, which ran from April to early June, meetings were held in six prairie communities, including Hinton, Jasper, Wetaskiwin and Wainwright in Alberta, and Biggar and Humbolt in Saskatchewan.

In each community, participants from the major chemical companies, the transport sectors, Alberta Public Safety Services and the Saskatchewan Emergency Measures Organization met separately with the local first responders, the town council and the public to address in detail their concerns about the transportation of chemicals through their communities. In Hinton and Jasper, meetings were also held with the local Chambers of Commerce, at their invitation. The meetings followed ones held last fall, when CCPA representatives visited the communities and asked them to identify any specific concerns they had. The results of those preliminary meetings indicated that western Canadians are concerned about the transportation of chemicals through their communities, despite the fact the chemical industry has one of the best safety records of any industrial sector in North America.

The Transcaer project group will now evaluate the communities' response at the various public forums, meetings, presentations and discussions, and make recommendations on how to proceed with setting up the Transcaer program across the Prairie provinces. The evaluation process will also include a follow-up phone survey to get feedback from people in all six communities. The results of the pilot project, including recommendations and the progress in implementing Transcaer, will be included in upcoming issues of *Insight*.

The Transcaer program is already receiving praise from a number of areas. Mark Egener, Managing Director of Alberta Public Safety Services, says that Transcaer is a logical extension of the efforts of the CCPA's Community Awareness and Emergency Response (CAER) program and dovetails nicely with the provincially administered Transportation of Dangerous Goods Control Program. Furthermore, Mr. Egener says that Transcaer provides an excellent mechanism for chemical companies to promote the ideal of community awareness.

Alberta Public Safety Services has played an active role throughout the Transcaer pilot project, including sharing its expertise and attending the public meetings to make presentations about the department's role, responsibilities and services.

Through Transcaer, members of the Canadian Chemical Producers' Association are committed to a policy that they will not release for transportation any product that cannot be moved in a safe and environmentally sound manner. Also, the association members are committed to providing programs that promote accident prevention, emergency response and community awareness.

Transcaer has five important objectives. The first is to define standards for chemical transportation and handling. Another objective is to create a partnership between chemical producers and the transportation organizations, both rail and trucking. The purpose of the partnership is to improve the level of transportation safety. A third objective is to provide assistance in emergency response training. This

Susan Lovenburg, who developed the Alberta Public Safety Services library into a unique national resource, was honored at a farewell reception last February.

training would be made available to local police, fire departments and other personnel who might be required to respond to a chemical emergency.

Transcaer's other two objectives relate to keeping the public informed. Not only are the chemical companies willing to provide active participation in community awareness programs, but it is also their aim to provide advisors who can respond to any questions concerning chemical hazards. The public awareness program will also provide information about the emergency response plans currently in place and pave the way for further two-way communication between the communities and the chemical industry.

The Canadian Chemical Producers' Association includes more than 70 member companies representing nearly 90 per cent of the value of chemicals manufactured in Canada. CCPA members are required to endorse a Responsible Care policy as a condition of membership, requiring them to make "a commitment to the responsible management of chemicals through all aspects of their life cycle so as to minimize adverse effects on human health and well-being and the environment."

APSS library continues to improve its unique resources

The Alberta Public Safety Services library, the only one of its kind in the province and possibly the country, now has a full-time librarian to pursue the library's further development.

Teresa Richey joined APSS as its part-time librarian in February, and the position was expanded to a full-time one in April.

"From what we can tell, we have the only library in Canada that services this type of information need," says Ms. Richey. "Our long-term goal is to be the information centre of Alberta in the areas of disaster assistance, disaster health services, disaster social services, transportation of dangerous goods, hazardous wastes, and training for all these areas."

Ms. Richey says the library is being developed to be "a comprehensive core collection of materials in these subjects" so that it will be a reference service for anybody outside APSS seeking this type of information, including federal and provincial government personnel, the academic community, industry and interested lay people.

In the near future, the library expects to improve its services by going on-line with other library computers to provide a quick reference service to arrange interlibrary loans for clients. The library's development plan also includes expanding this service to include on-line data base searches for comprehensive subject bibliographies.

To inform potential users about the library's one-of-a-kind resources, a brochure is being prepared to outline the library's services. Ms. Richey will also be making a series of demonstrations and talks to promote the library.

Ms. Richey completed a Master's degree in library and information studies last fall at the University of Alberta, and has worked for a number of libraries, including the

Teresa Richey is the first full-time librarian for the Alberta Public Safety Services library, the only library of its kind in Alberta and possibly Canada.

Science and Technology Library at the University of Alberta and the Office of the Chief Medical Examiner in Edmonton, and has run a bioassay laboratory for the Pollution Control Division of Alberta Environment. She is replacing Susan Lovenburg, the first librarian for Alberta Public Safety Services, who moved to Fredericton, New Brunswick in February.

During her time as librarian from April 1, 1988 to February this year, Mrs. Lovenburg completed the first stage of the library's development, expanding it from a departmental library to its present position as a unique provincial and national resource on the subject of public safety. Through initial financial assistance from Emergency Preparedness Canada, Mrs. Lovenburg was responsible for establishing policies and procedures for the operation of the library, developing a computerized catalogue of library holdings and instituting a program of reference assistance.

Emergency Medical Services: A selected bibliography of materials belonging to the Alberta Public Safety Services Library

Each issue of *Insight* includes a bibliography of selected materials on a subject of current interest. The bibliographies are arranged alphabetically by title and include a brief annotation where necessary. To borrow material listed, send an interlibrary loan request form to: Alberta Public Safety Services Library, 10320 - 146 Street, Edmonton, Alberta, Canada T5N 3A2 or telephone (403) 451-7178. The library staff is always looking for good bibliography topics, and appreciates suggestions. If you would like to see a bibliography on a certain subject, please let the staff know and they will try to accommodate your request.

Canada. Emergency Health Services Division. **50-60 Bed Emergency Hospital Information Manual.** Ottawa, Ontario: Emergency Health Services Division, 1967.
RA 975.5 E5 F531, MAIN LIBRARY

Canada. Emergency Health Services Division. **Advanced Treatment Centre.** Ottawa, Ontario: Queen's Printer and Controller of Stationery, 1967.
RA 975.5 .E5 A48, MAIN LIBRARY

A guide to the organization, administration, training and operation of centres to supplement emergency health services provided by traditional health care facilities in the event of a disaster.

Canada. Emergency Health Services Division. **Casualties From Nuclear Weapons: A Manual for Emergency Health Services.** Ottawa, Ontario: Emergency Health Services Division, 1964.
RA 648.3 .C37 2 copies, MAIN LIBRARY

Canada. Emergency Health Services Division. **Casualty Collecting Unit: Emergency Health Services Information Manual.** Ottawa, Ontario: Emergency Health Services Division, 1965.
RA 645.5 .C22, MAIN LIBRARY

A guide to the organization and operation of a casualty collecting unit (CCU). The unit is designed to provide first aid treatment to 500 casualties at the disaster site and to control casualty evacuation.

Mahoney, Louis Emmet and Thomas P. Reutershan. **Catastrophic Disasters and the Design of Disaster Medical Care Systems.** Washington, D.C.: Pan American Health Organization, 1987.
RA 645.5 .M33, DISASTER HEALTH SERVICES

Quarantelli, E.L. **Delivery of Emergency Medical Services in Disasters: Assumptions and Realities.** New York, New York: Irvington, 1983.
RA 645.5 .Q37, DISASTER HEALTH SERVICES

Brandt, Edward N. **Designing a National Disaster Medical System.** Washington, D.C.: Pan American Health Organization, 1985.
RA 645.5 .B72, MAIN LIBRARY

Marsden, Neville. **Diagnosis Before First Aid: A Manual for Emergency Care Workers.** Edinburgh, Scotland: Churchill Livingstone, 1985.
RC 86.7 .M37 1985, DISASTER HEALTH SERVICES

Garcia, Loretta Maim. **Disaster Nursing: Planning, Assessment and Intervention.** Rockville, Maryland: Aspen, 1985.
RT 108 .D57, DISASTER HEALTH SERVICES

Mahoney, Robert F. **Emergency and Disaster Nursing.** New York, New York: MacMillan, 1965.
RT 108 .M23, DISASTER SERVICES

"Provides background related to the cause and nature of various disasters, the clinical aspects of the management of simple injuries, complex procedures, planning and management for care of persons displaced by disaster." Includes index.

American Academy of Orthopaedic Surgeons. Committee on Injuries. **Emergency Care and Transportation of the Sick and Injured.** Chicago, Illinois: American Academy of Orthopaedic Surgeons, 1971.
RC 86.7 .E43, DISASTER HEALTH SERVICES

Standard reference for study and teaching of emergency medical technicians. Reviews functional systems, anatomy, types of injury and the

treatment required for each. Includes bibliography and index.

Canada. Emergency Health Services Division. **Emergency Hospital: Emergency Health Services Information Manual.** Ottawa, Ontario: Emergency Health Services Division, 1965.
RA 975.5 .E5 E431, MAIN LIBRARY

Kizer, Kenneth W. **Emergency Medicine Clinics of North America.** Toronto, Ontario: W. B. Saunders, 1984.
RA 645.5.E43, DISASTER HEALTH SERVICES

Collection of papers on the diagnosis and treatment of injuries common in wilderness and environmental emergencies. Topics include hypothermia and frostbite, electrical, lightning injuries, submersion injury, toxic plant ingestion, trauma management in wilderness environments and toxic inhalations. Includes references and index.

Seliger, Jerome S. and Joan Kelley Simoneau. **Emergency Preparedness: Disaster Planning for Health Facilities.** Rockville, Maryland: Aspen, 1986.
RA 645.5 .S45, DISASTER HEALTH SERVICES

Canada. Emergency Preparedness Canada. **Emergency Services Stockpile Review.** Ottawa, Ontario: Emergency Preparedness Canada, 1988.
RA 645.7 .C2 C36, MAIN LIBRARY

Nelson, Richard N., Douglas A. Rund and Martin D. Keller. **Environmental Emergencies.** Toronto, Ontario: W.B. Saunders, 1985.
RC 86.7 .E43, DISASTER HEALTH SERVICES

A manual to facilitate diagnosis and treatment of injuries resulting from exposure to environmental hazards for use by emergency health care workers dealing with unfamiliar situations requiring immediate action. Includes references and index.

Canada. Health and Welfare Canada. **Federal-Provincial Emergency Services Directors' Meeting.** Ottawa, Ontario: Health and Welfare Canada, 1983.
HV 555.C2 F44 1983, MAIN LIBRARY

New Zealand. Division of Public Health. **A Guide to Public Health Planning and Procedures for Civil Defence Emergencies.** Wellington, New Zealand: Division of Public Health, 1984.
RA 645.7 .N45 1984, MAIN LIBRARY

Scanlon, Joseph, Margaret Gural and Catherine Khordoc. **Mass Casualty Management and the Edmonton Tornado.** Ottawa, Ontario: Emergency Communications Research Unit, Carleton University, 1987.
HV 636 1987 .S22, MAIN LIBRARY

Solomon, Fredric and Robert Q. Marston. **The Medical Implications of Nuclear War.** Washington, D.C.: National Academy Press, 1986.
RA 648.3 .M445 1986, MAIN LIBRARY

Based on papers presented at the symposium on medical implications of nuclear war held Sept. 20-22, 1985 in Washington, D.C. sponsored by the Instutute of Medicine. Includes: nuclear war with modern weapons, physical effects and environmental consequences, health consequences of nuclear war, medical resources needs and availability following nuclear war, images and risks of nuclear war; psychosocial perspectives and long-term consequences of and prospects for recovery from nuclear war. Includes references, glossary and index.

Sheng, C.Y. **Medical Support in the Tangshan Earthquake: A Review of the Management of Mass Casualties and Certain Major Injuries.** Washington, D.C.: Pan American Health Organizations, 1987.
RA 645.9 .S53, MAIN LIBRARY

Alberta. Policy Advisory Committee to the Minister of Alberta Hospitals and Medical Care. **New Dimensions in Emergency Health Services: An Alberta Solution.** Edmonton, Alberta: Policy Advisory Committee to the Minister of Alberta Hospitals and Medical Care, 1988.
RA 996 .A42 A42, MAIN LIBRARY

Laube, Jerri and Shirley A. Murphy. **Perspectives on Disaster Recovery.** Norwalk, Connecticut: Appleton-Century Crofts, 1985.
HV 555 .L38, DISASTER HEALTH SERVICES

Canada. Emergency Health Services Division. **Radiation Protection in Disaster Planning for Hospitals.** Ottawa, Ontario: Emergency Health Services Division, 1964.
RA 975 .D57 R32, MAIN LIBRARY

A guide to the control of radiation exposures within health care facilities during a nuclear emergency.

Readings in Disaster Planning for Hospitals. Chicago, Illinois: American Hospital Association, 1966.
RA 975.5 .E5 R42 1966,
DISASTER HEALTH SERVICES

A selection of articles pertaining to disaster planning in hospitals, divided into two sections; the first addresses disaster planning and details disaster plans of specific hospitals; the second documents actual hospital responses to disasters.

Summary Record [of the Conference on the Role of St. John Ambulance in Civil Emergency Planning]. Publisher unknown, 1969.
RA 995.5 .C2 C66, MAIN LIBRARY

Rund, Douglas A. and Tondra S. Rausch. **Triage.** :Toronto, Ontario: C.V. Mosby, 1981.
RA 975.5 .E5 R86, DISASTER HEALTH SERVICES

When providing emergency health care to mass casualties, the decision-making process is known as triage. Authors discuss history and theory of triage, define a methodology for developing triage systems and explore triage in pre-hospital settings. Includes index.

Staff Matters

George Rezansoff, Director of Finance at Alberta Public Safety Services, passed away suddenly on March 1. A native of Manitoba, Mr. Rezansoff joined APSS as finance director in November 1973, when the department was called the Emergency Measures Organization. Mr. Rezansoff is survived by his wife, Myrtle, and daughter, Lisa.

Susan Lovenburg, the first APSS librarian, has moved to Fredericton New Brunswick. During her time as librarian from April 1, 1988 to February this year, Susan completed the first stage of the development of the library, helping make it a unique provincial and national resource on the subject of public safety.

Teresa Richey joined APSS on Feb. 15 as the new departmental librarian, replacing Susan Lovenburg. Teresa, who recently completed a Master's degree in library and information studies at the University of Alberta, has worked for a number of libraries, including the Science and Technology Library at the University of Alberta and the Office of the Chief Medical Examiner in Edmonton, and has run a bioassy laboratory for the Pollution Control Division at Alberta Environment.

Field Services Officer **Paul Riopel** was transferred to Edmonton District office from the St. Paul District Office on March 1.

ACCESS NETWORK

An ACCESS NETWORK production crew films the accident scene for the docudrama Critical Incident Stress.

Critical incident stress: The movie

by Bob van Goethem,
Branch Head, Disaster Social Services

For some time now, the ambulance and fire services in Alberta have become increasingly aware of the extreme stress that can result from their emergency activities, particularly the deaths of children and perceived mission failure. The need for professional support, in the form of critical incident stress debriefing, is now widely acknowledged, to the point where stress awareness and subsequent stress debriefing are being approached as part of a continuing program for first responders.

As part of the education process, a new educational resource has been developed for first responders. *Emergency Medical Update: Critical Incident Stress* is a 28-minute television program produced by ACCESS NETWORK, funded by the Alberta Professions and Occupations Bureau, with support from the Edmonton Ambulance Authority, the Edmonton Fire Department, the Edmonton Police Deaprtment and Alberta Public Safety Services. As the co-ordinator of critical incident stress debriefing programs for Alberta, I was approached by ACCESS to help with the project — and ended up writing my first docudrama.

After three years of conducting studies on the impact of emergency work on rescue personnel, or first responders, observing first hand the compassionate and passionate way they relate to their jobs and the way they handle sometimes tough situations, I knew exactly what I wanted to do and what message I wanted to get across: namely, what causes stress? How does it manifest itself, and what can we do about it?

I had learned that one of the most stressful issues for rescue and response personnel is the death of a child, and that identification with such an event could produce, among other things, anxiety, guilt, irritability and grief. It could also produce sleep disorders and a host of physical and emotional problems. I had also learned that the best way to intervene is through the use of critical incident stress debriefings, stress awareness, good nutrition and a healthy lifestyle. "Great," I thought, "now all I have to do is portray this stuff in a 28-minute movie!"

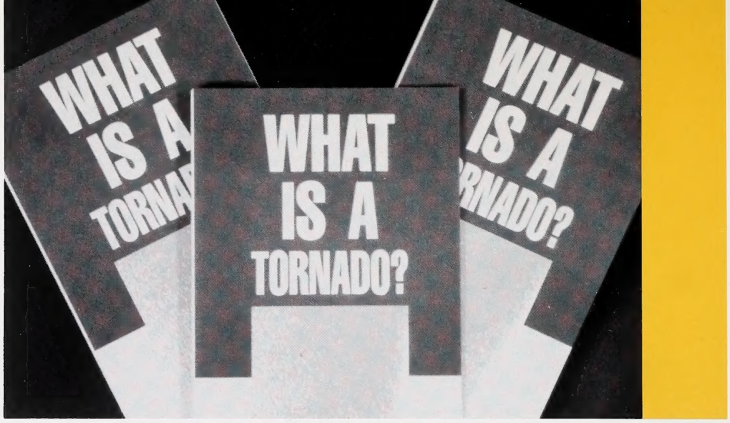
Four months later, after a number of false (interpret poor) starts, several waste baskets full of discarded notes, writer's cramp and feeling as if I was taking on a rewrite of *Gone With the Wind*, I presented my draft docudrama to the project committee. The reaction was positive, and the project was turned over to a script writer to develop character profiles and dialogue.

In the draft, I presented a scenario involving a motor vehicle accident where the driver, his pregnant wife and two-year-old child were killed. The woman died enroute to hospital after a difficult and prolonged extrication, and the child — who had not been strapped into a car seat — was hidden beneath debris and was not discovered until after the police investigation at the scene.

In the portrayal, the first responders at the accident experienced considerable trauma related to the death of the child. The policeman in the scenario, who was the father of a young child himself, and the fireman, who had a grandchild about the same age, identified with the child killed in the accident. Both experienced unpleasant flashbacks and nightmares about that particular mission failure. They also faced a great deal of guilt. During extrication, the woman had begged them to "save my baby." Seeing no infant car seat or baby, the crew assumed she was referring to the child she was carrying, and did not realize there was a toddler hidden behind the driver's seat.

Along with a scene-by-scene breakdown with narrative, I also wrote an outline explaining why such a treatment could be effective as a training tool, and the expected benefits we could achieve. I believed that by showing rescue and response personnel responding with typical and normal reactions to such an incident, and showing the benefits of stress debriefings and other strategies for dealing with stress, we could get the message across, provided the whole production looked plausible.

Arrangements were made to have the script writer, Helen Brisbin, attend one of my in-service sessions on critical incident stress awareness for the Edmonton Fire Department



and to do ride alongs with the ambulance, fire and police service. She, in my view, really captured the essence of the rescue personality and its reactions to stress. The actors hired for this production also were provided ride alongs and they, too, had an excellent grasp of their role. They were very convincing.

When the shooting started, I was offered the opportunity of seeing the scenes being acted out. Bernie Krewski from Alberta Health, the clinical director of our critical incident stress debriefing program, Dr. Geoffrey Dawrant, a stress management consultant, and I were interviewed. We acted out a critical incident stress debriefing so that we could show a debriefing in progress. In this scene, it was hard to tell the actors from the real paramedics so convincing were the reactions being portrayed.

The next phase was the broadcast on Jan. 16. (The program was broadcast again on Jan. 25.) The rehearsals for the live broadcast were fun, notwithstanding the fact that I was well into a stress mode myself, particularly when the little red light on the camera flashed on. The format of the program included broadcasting parts of the docu-drama with breakaways to a studio panel who answered telephone inquiries about stress and what had been portrayed to that point in the program. The panel members were Mike Stratton from the Edmonton Police Department, Doug Wiltzen from the Edmonton Fire Department, Rick White from the Edmonton Ambulance Authority and myself.

An hour after the program went off the air, the telephones — which were answered by representatives from fire and ambulance services, the Alberta Professions and Occupations Bureau, and mental health professionals — were still ringing. It was, I think, a measure of the program's success.

Videotapes of the docu-drama *Emergency Medical Update: Critical Incident Stress* are available for $15 each, plus a $5 handling fee, from the ACCESS NETWORK Media Resource Centre. The price also includes a document about critical incidence stress prepared by Mr. van Goethem. This reference material includes an anthology of some of the better material written on the subject, a detailed bibliography for readers wanting more information, as well as strategies recommended by the Institute of Mental Health in the United States for dealing with stress and developing group cohesiveness. These strategies help make it easier for response teams to accept the critical incident stress debriefing program.

To order the videotape and print guide, call 1-800-352-8293 (toll-free in Alberta) for more information; in Calgary telephone 256-1100. Out-of-province inquiries should be addressed to:

ACCESS NETWORK
Program Sales
295 Midpark Way S.E.
Calgary, Alberta
T2X 2A8
Tel. (403) 256-1100

Be prepared for tornadoes

When summer storms roll in, many people can't help but think and worry about tornadoes. *What is a tornado?,* a brochure published by Alberta Public Safety Services, helps address that worry by explaining how individuals can be prepared for severe summer storms, including the rare event of a tornado.

The brochure explains the nature of a tornado, and the difference between the tornado watches and tornado warnings issued by the weather office. It also answers the question: "What can I do to protect myself and my family?", particularly by offering suggestions for the contents of an emergency kit, where to seek shelter and the importance of a personal action plan. The brochure also describes what to do if you're away from home when a severe storm threatens, and the special precautions to be taken by mobile and modular home owners.

What is a tornado? emphasizes the importance of listening to the radio for information and instructions before, during and after severe storms, and remembering to have a battery-powered radio available.

For copies of *What is a tornado?*, contact the Communications Office, Alberta Public Safety Services, 10320 - 146 Street, Edmonton, Alberta T5N 3A2, tel. 427-2772.

The dinosaur in question: will it deceive geology students at the University of Alberta?

Unsuccessful in quest for landslide insurance, homeowner rebuts March's Viewpoint to "buy insurance"

Viewpoint gives you, the reader, a soapbox to stand on and air your views. Start a debate: send your beefs and bouquets to Viewpoint, in care of Insight's managing editor. Views expressed here do not necessarily reflect those of Alberta Public Safety Services.

by Dave Cruden, Ph.D, P.Geol.
Professor of Civil Engineering,
University of Alberta

I was amused by the Viewpoint in your March 1989 issue of *Insight* in which Ron Thompson, as Insurance Consultant with Disaster Assistance (Alberta Public Safety Services) urged us to part with our money (just a little bit) to buy insurance.

The dinosaur trampling on Ron Thompson's house drew my attention. As a geologist, I have difficulty persuading my students that dinosaurs died out some 65 million years before the insurance industry came into existence. Many students know better because they have seen Raquel Welch fighting dinosaurs in the movie "One million years B.C.". How many more will be deceived by Ron's house?

There is, however, a serious message behind Thompson's misleading jokes. Take the question of earthquake insurance which I've been offered at very reasonable rates in Alberta. The rates are reasonable because the claims' history has been good. To the best of my knowledge, there has never been a successful claim for earthquake damage anywhere in Alberta nor even a report of any ground damage from earthquakes.

I was offered earthquake insurance because I inquired about insurance against residential damage from landslides and land subsidence. A recent survey (Cruden et al, 1989) shows landslide damage costs the Canadian economy hundreds of millions of dollars a year. However, landslide, avalanche and subsidence insurance is not available in Canada from commercial insurers. While the insurance industry obviously often can't be relied on to provide coverage some householders need, it can be relied on to persuade us to want the insurance it can provide easily and profitably.

Joking aside, if the insurance industry wishes to be regarded as a serious participant in public safety services, it should spend more time on research and education and less on advertising. Of course, the same observation might apply to the magazine publishing Thompson's article.

Anatomy of a disaster:

Two new reports can help with disaster training

Two reports on recent Alberta disasters are being completed by Alberta Public Safety Services.

The first, *Tornado — A Report,* a joint project of APSS and Emergency Preparedness Canada, is an authoritative, comprehensive document on the tornado which struck Strathcona County and the City of Edmonton on July 31, 1987. The report contains almost 70 reports from nearly all groups which responded to the devastation caused by the tornado. *Tornado — A Report* can be used as a resource for training disaster coordinators throughout North America, as a record for future research, and a reference book for the general public.

Production for the tornado report has been delayed by a decision to include further information. As a result the report was not published in April, as was stated on the back cover of the March *Insight.* For those who sent their orders and payment of $17 to the Queen's Printer, APSS offers its sincere apologies. Copies will be sent as soon as the report is available, probably by the fall.

Alberta Public Safety Services has also assembled an archival collection of tornado documents, including everything from photographs, rescue workers' logs and police reports to videotapes of local newscasts. The collection has been placed in the provincial archives and will enable future historians to study every aspect of the disaster.

A report on last summer's floods in Slave Lake is in the final stages of production and should be available shortly. The report is similar in format to the tornado document. Further details on the availability of the Slave Lake flood report will be included in an upcoming issue of *Insight.*

Include insurance in your disaster plans

In the 1987-88 fiscal year, Alberta Public Safety Services (APSS) approved more than $53 million in disaster assistance for Albertans suffering from extreme and unusual experiences. Of that total, most (almost $50 million) was earmarked for victims of the severe weather and tornado in Edmonton in July 1987. The remainder was designated for losses resulting from two major storms in southern Alberta.

The APSS Disaster Assistance Program is one of the most compassionate in Canada and will continue to provide a safety net for all Albertans. Many people, however, do not realize that the assistance is intended for losses not covered by insurance, and that individuals, not government, are responsible for taking out adequate insurance.

Even a tornado is an insurable event, or at least the damage it causes. In fact, tornado damage does not normally qualify for disaster assistance. An exception was made after the 1987 tornado because of the severity of the storm, the heavy damage and loss of life involved. Even when the losses suffered meet the criteria for disaster assistance, the program is not intended to cover readily insurable things such as recreation equipment, jewelry, hobby supplies and so on.

Now that spring is here and summer is on its way, individuals need to be prepared for the vagaries of weather by protecting themselves with adequate insurance. Important questions to consider include: Is your insurance sufficiently broad in its scope? Are the sums insured high enough? Is the basis of settlement "replacement cost" or "actual cash value"?

Insurance is available at minimal cost for such things as windstorms, and in the last decade, for sewer back-up. Cars and mobile equipment can be insured against both wind damage and floods. While home insurance is not yet available against the peril of flood, the insurance industry and government authorities are working on it.

For further information on being prepared for the spring-and-summertime disaster season, contact your local insurance broker.

Stay Alert . . . Stay Alive!

Do you know what action to take if you are caught in a severe thunderstorm or tornado?

Stay Alert . . . Stay Alive! is an educational video prepared for Emergency Preparedness Canada and Environment Canada to provide information about the precautions necessary to remain safe during severe summer weather conditions. The video includes a number of practical safety tips on what to do if you're at home, at school or driving when a storm hits.

The 17-minute video may be of interest to schools, businesses, safety organizations and individuals, and is available in French and English. Alberta Public Safety Services has already sent copies of the video to schools across the province. If you would like to borrow *Stay Alert . . . Stay Alive!* or obtain more information about safety precautions and the weather, contact:

Communications
Environment Canada
Twin Atria #2, 2nd Floor
4999 - 98 Avenue
Edmonton, Alberta
T6B 2X3
Tel. (403) 468-8075

To help ensure the safety of response personnel dealing with the aftermath of the Edmonton tornado, a color-coded marking system for buildings and vehicles was developed on the spot.

Rescue workers play it safe and leave their marks

Sometimes, the simplest solutions are the best. In this paper, the authors discuss a marking system used to help ensure the safety of response personnel dealing with the aftermath of the Edmonton tornado. The simple, color-coded system was devised on the spot by the Royal Canadian Mounted Police (RCMP) to indicate the status of buildings and vehicles searched by different rescue teams.

The use of marking systems dates back to the Second World War, when a system using letters was developed (and is still in use in many places in the Commonwealth). A marking system has also been included as part of the Rescue Leaders Course at the APSS Training School for almost a decade.

by Ralph Holmes,
Co-ordinator, Industrial Programs
and
Neil McCulloch, Compliance Officer,
Dangerous Goods Control Division

The Event

The Edmonton tornado on July 31, 1987, which carved a swath of destruction along its 40-km path.

The Response

Even as the tornado passed through the area, two major responses were mounted by Strathcona County and the City of Edmonton. The county's response was co-ordinated by the Sherwood Park Detachment of the RCMP. The city's response was under the combined direction of its police and fire departments. This article discusses the response in Strathcona County, where industrial damage was the most severe.

The RCMP established its command post in the affected area and secured the scene. The site commander co-ordinated the rescue and recovery operations within the industrial area from this command post.

The tornado caused extensive damage to commercial property across a wide area. During the initial response, many buildings had to be searched for persons who might be trapped, injured or killed. The damage caused by the tornado was in itself a threat to response personnel. Before buildings could be safely searched, the utilities had to be cut off, the remaining structure had to be declared structurally safe, and any damaged containers identified that presented a hazard, along with any contamination caused by spilled or leaking dangerous goods.

Because of the extent of the damage and numerous hazards, response was required from many different agencies which brought their specific experience, expertise and manpower to the scene. During the first few days of the recovery phase, more than 300 response, enforcement and other response-related personnel were involved in the county alone.

The entire area (buildings, vehicles, fields, woodland, etc.) was searched by five teams composed of a team leader from the RCMP, a dangerous goods inspector, a structural engineer and 20 response personnel. Each search team was self supporting and maintained communications with the command post. Each time a problem was encountered, the grid map was updated and the resources required to mitigate any serious problem were dispatched from the command post staging area. Due to the violence of the tornado, many vehicles and containers of dangerous goods were found up to half a kilometre away from their original locations.

The Problem

There was a large number of buildings that had to be searched for victims of the tornado. Offices, warehouses, manufacturing plants and workshops each presented a variety of hazards to response and recovery personnel. The hazards included:

— sharp, splintered and torn building materials;
— further collapse of structures;
— high-voltage power lines;
— natural gas;
— contamination from released dangerous goods;
— damage to pressurized containers;
— crushed vehicles and equipment beneath collapsed buildings; and
— leaking large containers of cryogenic gases, liquefied gases, compressed gases, flammable liquids, pesticides, radioactive materials, etc.

Due to the wide area affected and the large number of collapsed buildings, it was difficult to identify many

buildings as all markings and familiar landmarks were destroyed. This presented many problems as buildings had to be searched without the aid of plans or knowledge of all of their contents.

A simple, effective and comprehensive method was required to identify the status of each searched building and vehicle. With the large number of personnel involved in the response effort and the large number of buildings which had to be searched, this system had to be easy to identify, and implement, and be understood by all members of the response and recovery team.

The Solution

A color-coded marking system was used on or in front of each building, vehicle, storage site and contaminated area. Aerosol paint cans provided a simple method of marking the hazard status of these sites. The following coding was used: red for utilities, blue for structural safety of the building, silver for survivors, and gold for dangerous goods.

A straight vertical line in a particular color indicated that the building or site had been checked and was clear of that hazard. A question mark (?) indicated that the hazard status could not be immediately determined or that a hazard had been identified that would endanger response or recovery teams; for example, a body beneath a collapsed structure that would require heavy equipment to remove the debris.

Other examples include a structurally unsafe building or a site contaminated with a hazardous substance. These areas usually required specifically trained personnel or very specialized equipment before the status of the site could be determined or rendered safe. In addition to the straight line or question mark coding, the class and division number of any dangerous goods would be marked near the coded area; for example, 2.1 for a flammable gas, 3.1 for a flammable liquid and 7 for a radioactive material.

The markings were usually placed near the front entrance of the building. In cases where the front of a building was badly damaged or there was no building, the markings were placed on the driveway entrance to the lot.

Further Considerations

Colors are difficult to distinguish at night. In addition, colors may appear quite different under the limited spectrum of artificial light. Thought must be given to the actual colors adopted to ensure they are distinguishable under most conditions. Color blindness is not uncommon, especially for blue and green, so these combinations should be avoided.

Recommendation

Major disasters such as the Edmonton tornado are fortunately rare. When they do strike, large numbers of response personnel are required, likely drawn from several municipalities and jurisdictions. To facilitate the co-ordination of rescue and recovery efforts, it is suggested that a standard hazard identification be adopted and implemented based on the one used after the Edmonton tornado.

The color table may be extended slightly so that utility hazards can be identified separately: red for electricity, blue for water, canary yellow for natural gas, metallic silver for survivors, metallic gold for dangerous goods, florescent orange for structural and white for identified hazard cleared. The colors were chosen based on existing industrial color standards as far as possible.

There are three hazard states: no hazard, hazard present, and hazard unknown. These can be represented by a vertical bar meaning the site has been checked and cleared of this hazard. A question mark indicates that the site contains the hazard the color indicates or cannot be safely checked by the initial search team. No mark indicates that the site has not been checked for hazards. Once the site has been cleared of the identified hazard, a white vertical line is painted through the question mark.

This system ensures that search progress is documented as it proceeds. This will enhance the safety of the response and recovery teams and allow more thorough searching for survivors and other victims.

Other Markings

When going into an area where all street signs and other landmarks no longer exist, as occurred with the tornado, it may be necessary to spray paint street names on the pavement at intersections. In Edmonton, lot numbers were also spray painted on each curb in front of each location on the street. This system was extremely valuable in the identification of each site, especially for responders not familiar with the area.

Hydrogen Peroxide

Hollywood coined the term peroxide blond back in the '50s. The phrase related to the practice of some of the film stars, who bleached their hair to become the "blonde bombshells" of the screen. The bleaching process was achieved using a chemical called hydrogen peroxide, which can still be found as an active ingredient in today's commercial products for bleaching hair.

Hydrogen peroxide has been around for a considerable time but its commercial manufacture, like many other chemicals, increased during the Second World War. The Germans experimented with its use as one of the ingredients for fuel in submarines. They eventually found a more sinister use for it when they mixed it with other compounds such as hydrazine. The resultant chemical reaction was powerful enough to send rockets hurtling from launch sites in Belgium and France all the way to London, England.

Three processes are used commercially to manufacture hydrogen peroxide. The first and most widely used is the autoxidation of ethyl anthrahydroquinone to produce quinone. The quinone is then reduced using hydrogen over a palladium catalyst, producing hydrogen peroxide. The second process is an electrolitic one, where sulphuric acid solution of ammonium bisulphate is converted in an electric cell into peroxy disulphate. The peroxy disulphate is then hydrolyzed into hydrogen peroxide. The third process involves the autoxidation of isopropyl alcohol.

Pure hydrogen peroxide is a highly stable compound, but the normal manufacturing process introduces traces of impurities. Additives such as acentanilide or sodium stannate are used to counteract the effects of the impurities and make the peroxide a more stable compound. Without the additives, hydrogen peroxide would decompose into water and oxygen at a rate considerably higher than 0.5 per cent a year, which it typically does under normal conditions. The use of translucent amber-colored bottles to store the product also helps to prevent decompositon by reducing the effects of sunlight, which speeds up the chemical breakdown. The household strength of hydrogen peroxide is three per cent, and the most common industrial grades range from 27.5 to 70 per cent.

Required Label/Required Placard for Primary Class

Required Label for Subsidiary Class Solution with Strengths Greater Than or Equal to 20%

Classification and Signs for Hydrogen Peroxide Solutions

Hydrogen peroxide (8% to 20%) UN 2984 Class 5.1 Packing Group III
Hydrogen peroxide (20% to 40%) UN 2014 Class 5.1 (8) Packing Group II
Hydrogen peroxide (40% to 60%) UN 2014 Class 5.1 (8) Packing Group I
Hydrogen peroxide (60% or more) UN 2015 Class 5.1 (8) Packing Group I

Hydrogen peroxide's uses are based on its ability to give up the extra oxygen atom in its formula (H_2O_2) in a reaction, thus leaving water, or H_2O. This property makes hydrogen peroxide a very powerful oxidizer, with a wide variety of industrial uses, including the bleaching and deodorizing of textiles, wood pulp, hair and fur; the manufacture of plasticisers, foam rubber and glycerol; and as a substitute for chlorine in the treatment of water or sewage. In strengths above 90 per cent, hydrogen peroxide continues to be used as an oxidizer in rocket engines.

Like all oxidizing agents, the hazards of hydrogen peroxide are associated with the fact that, in a fire situation, hydrogen peroxide supports the combustion process. The product's hazards increase with its strength — pure hydrogen peroxide is explosive and can be detonated by heat or mechanical impact. At high concentrations, hydrogen peroxide can react extremely violently — and in some cases explosively — with other chemicals such as acidified organic chemicals, ammonia, hydrazine, acetone, ethanol, formaldehyde and many others. These violent reactions can easily produce fires which will be supported by any remaining hydrogen peroxide.

Any fires that involve this product should be flooded with water, and any containers not involved in the fire should be kept cool with water spray. Fire fighters should wear self-contained breathing apparatus and full protective gear. Extreme caution should be exercised in a fire as any peroxide splashed onto clothing can ignite it.

Solutions of 50 per cent or more of hydrogen peroxide can damage skin and eye tissue if they come in contact with the solution in the form of liquid, vapors or mist. Weaker solutions are irritants to

Prompt remedial action helped clean up this spill of styrene and a resin solution in an efficient manner.

CANADIAN PARKS SERVICE

both skin and eyes. Anyone who has been splashed by hydrogen peroxide solutions should flush the affected parts with copious amounts of water for at least 15 minutes. Any contaminated clothing should be immediately removed and medical advice should be sought if irritation or redness develops.

Anyone who has swallowed some hydrogen peroxide should be given large amounts of water to swallow if still conscious. Vomiting should not be induced because of the risk of further damage to the throat and mouth. Medical attention should be sought immediately.

Spills of hydrogen peroxide should be diluted with plenty of water and flushed into a holding area where the resultant solution can then be allowed to decompose or be recovered.

Because of the properties of oxidizers and their reaction with organic materials, care should be taken when choosing personal protection. Leather and many different types of fabrics, such as wool, cotton and rayon, can present a fire hazard if they are contaminated by high-strength peroxide. Boots and gloves should be neoprene, rubber or vinyl and clothes should be made from antistatic-treated polyester acrylic material. Safety eye wear should be worn at all times by anyone handling or working with this product.

Hydrogen peroxide has four listings in Schedule II of the Transportation of Dangerous Goods Regulations. Each has a different concentration range and with each listing, different Special Provisions apply. Three of the listings also have different product identificaion numbers (PIN).

The TDG listings are as follows:

Shipping Name	Strength	PIN	Class	Packing group
Hydrogen Peroxide aqueous solutions	8-20%	2984	5.1	III
Hydrogen Peroxide aqueous solutions	20-40%	2014	5.1(8)	II
Hydrogen Peroxide aqueous solutions	40-60%	2014	5.1(8)	I
Hydrogen Peroxide stabilized or Hydrogen Peroxide aqueous solutions	Over 60%	2015	5.1(8)	I

Strengths above 60 per cent must be stabilized and cannot be transported in bulk. All strengths showing a subsidiary class must be marked with both primary and subsidiary labels on small containers. Only Class 5.1 placards are required on shipments of hydrogen peroxide above 500 kgs. It is prohibited to transport strengths of 40 per cent hydrogen peroxide and above by public passenger vehicle, passenger aircraft and cargo aircraft.

Prompt action resolves park spill

November 1, 1988 was not a good day for the driver pulling this semi-trailer unit.

An icy patch on Highway 1, 21 km east of Lake Louise, caused the unit to enter the south ditch of the eastbound lane. The trailer unit was severely damaged, causing a number of the 45-gallon drums of dangerous goods being transported to rupture and spill their contents into the ditch. Of the 80 drums being transported, 56 contained styrene and 16 held a resin solution, with the remaining 28 drums containing a non-regulated emulsion. Styrene and the resin solutions are both Class 3 products, with the main hazard being their flammable nature.

Prompt remedial action by the Royal Canadian Mounted Police, Canadian Parks Service representatives, Alberta Public Safety Services and the owner of the product resolved the incident in an efficient manner.

The driver of this small car was severely injured after spinning out of control into the path of a propane transport unit.

Shut-off valve sticks open after propane tanker accident

On the morning of Feb. 27, 1989, a small car travelling northbound on Highway 9, two km north of Irricana, spun out of control on icy roads directly into the path of a southbound propane transport unit. Although the driver of the tanker took evasive action, the trailer unit still struck the second vehicle a glancing blow. The tank trailer whiplashed in the process, striking the smaller vehicle a second time and throwing it into the east ditch. The tanker unit continued spinning and came to rest pointing north and leaning over at a 45-degree angle.

The driver of the tanker unit suffered back bruises and was transported to Airdrie Hospital for further observation. The lone occupant of the second vehicle was thrown through her windshield and suffered severe injuries. She was later airlifted to Calgary General Hospital, where she was listed in critical condition. The woman recuperated for about a month, and it is expected it will take a year for her to make a full recovery.

The major contributing factor in this accident was weather and road conditions.

The dangerous goods involved in this instance were being transported in compliance with dangerous goods legislation, proper safety marks and documentation were present, and the driver was able to produce a dangerous goods training certificate.

One problem of note was encountered in the incident. The force of the accident caused the internal shut-off valve on the tanker to stick in the open position, allowing propane residue and vapor to enter and remain in external piping. Such residue would not have been accessible to the off-loading procedures being employed and there was a fear it had the potential to be released if the valve remained open while the tank vessel was being towed.

A successful effort to close this valve was made after the tanker returned to its normal upright position. If the situation had not been rectified, a tap and burnoff procedure would have been needed.

Fall course dates for dangerous goods instructors

The Northern Alberta Institute of Technology (NAIT) in Edmonton, and the Southern Alberta Institute of Technology (SAIT) in Calgary are both offering a course for dangerous goods instructors, in conjunction with Alberta Public Safety Services (APSS). The course is of interest to trainers who want to achieve voluntary accreditation from APSS.

Participants will carry out an in-depth section-by-section study of the Transportation of Dangerous Goods Control Act, as well as the inter-related issues of the Workplace Hazardous Materials Information System (WHMIS) and hazardous wastes, study basic adult teaching techniques and be provided with new instructional materials appropriate for successful presentations to members of the transportation industry.

The next trainers' courses at SAIT will be held from Sept. 25-29 (course number XSPX-923-1) and Nov. 20-24 (course number XSPX-923-2). The fall dates for courses at NAIT are Oct. 16-20 and Dec. 11-15.

For further information, contact SAIT, Chemical Technologies Department, 1301 - 16 Avenue, N.W., Calgary, Alberta T2M 0L4, tel. (403) 284-8442. For the trainers' courses at NAIT, contact Harold Hayter, Continuing Education, NAIT, 11762 - 106 Street, Edmonton, Alberta T5G 2R1, tel. (403) 471-7584.

Sgt. Gary Oberg (seated) is presented with a plaque by Ron Wolsey, Executive Director, Dangerous Goods Control, Alberta Public Safety Services (APSS). Sgt. Oberg was honored last January for his dedication to the Alberta Dangerous Goods Control program. Sgt. Oberg, formerly of the "K" Division Training Branch at RCMP Headquarters in Edmonton, was the first member of the RCMP in Canada to be designated as a dangerous goods inspector and was instrumental in co-ordinating delivery of training to more than 300 of his colleagues who became inspectors in Alberta. The training course standards which were formulated by "K" Division Training Branch, using modules developed by Dangerous Goods Control for APSS dangerous goods inspectors, is being evaluated by RCMP Headquarters in Ottawa for use throughout Canada. Sgt. Oberg was recently transferred to"Depot" Division in Regina.

Dangerous Goods Route Information — Alberta

The following by-laws have received approval from the Minister responsible for Alberta Public Safety Services under Section 17(2) of the Transportation of Dangerous Goods Control Act:

Municipality	By-Law Number
Bonnyville	999-88
Calgary	67M87 (Amended 9M89)
Fort McMurray	87/37 (Amended 88/44)
Strathcona (County)	25-88

By-Laws Under Development

Blackfalds
Brooks
Camrose
Eaglesham
Taber
Whitecourt

Ron Wolsey, Executive Director of Dangerous Goods Control, Alberta Public Safety Services, spoke about the transportation of dangerous goods at a seminar on hazardous materials held by the Alberta chapter of the Canadian Society for Civil Engineers last March in Edmonton.

Amendments to the Transportation of Dangerous Goods Regulations

SCHEDULE NO. 5
(SOR/88-635 CANADA GAZETTE PART II, VOL. 122, NO. 26 DECEMBER 21, 1988)

The amendments of Schedule No. 5 focus on the documentation and safety mark requirements for the transportation of compressed gas. The amended sections are as follows:

4.8, 4.9 (1), 4.9 (2), 4.12, 4.12.2,
5.9, 5.16, 5.17, 5.38 (2).

SCHEDULE NO. 8
(SOR/89-39 CANADA GAZETTE PART II, VOL. 123, NO. 2 JANUARY 18, 1989)

The amendments to Schedule No. 8 focus on Schedule II and consequential amendments. The amended sections, special provisions and Schedules are as follows:

1.2, 2.3, 2.15, 2.17, 2.23, 3.1,
3.1.1, 3.2, 3.4, 3.6, 3.8, 3.13,
3.14, 3.15, 3.22, 3.23, 3.28,
3.29, 4.9, 7.1.1, 8.1.1. Schedule 1
and 11, S.P. 9, 13, 17, 29, 32,
40, 41, 43, 52, 55, 59, 63, 66,
77, 80, 81, 86, 87, 95, 100, 103,
104, 105, 106, 107, 108, 109,
110, 111, 112, 113, 114, 115, 116,
117, 118, 119,
SCHEDULES VIII, XII and XIII

Copies of these amendments are available at most bookstores, or contact:

Canadian Government Publishing Centre
Supply and Services Canada
Printing Bureau Building
45 Sacre Coeur
2nd Floor
HULL, Quebec
K1A 0S9
Phone: (819) 997-2560

The new public information officers course includes a staged media confrontation, or "scrum", where course participants posing as the media interrupt officials taking part in a disaster management exercise.

Alberta trains its first emergency information team

by Grahame Blundell, Director of Communications

Alberta now has its first team of public information officers trained to assume responsibility for public affairs at disaster sites. The 16 information officers, who come from all over the province, attended a four-day pilot course in May at the Alberta Public Safety Services Training School in Edmonton. The innovative Public Information Officers Course will now be part of the school's annual curriculum.

The information officers course, which is run in conjunction with another new precedent-setting one, Emergency Site Management, teaches topics such as what the media need to know, how to work with the media and the public, the elements of an emergency public information plan, and how to run a news conference.

Until recently, media training at the APSS Training School usually consisted of a one-hour lecture called Dealing with the Media, which was included as part of other courses. However, the idea of "dealing with the media" has been turned upside down: that out moded concept has been replaced with a new realization of the importance of working together with the media, to seek their help and co-operation to get accurate information out quickly to the community when disaster strikes. As a result, in the last year that one-hour lecture grew to a three-hour session integrated with the Emergency Site Management course.

The course candidates at the expanded session wrote news releases and faced real journalists in an arranged scenario similar to one that might one day turn into reality in their own municipalities. With the help of students from the journalism and audiovisual programs at Grant MacEwan Community College, they interrupted exercises which were part of the Emergency Site Management (ESM) course, insisting on interviewing "municipal officials" for information to file their stories.

This interactive participation has dramatically changed the preconceived notions, often held by those attending the ESM courses, of the importance of the media. It has also highlighted the need to give some basic training to municipal employees on the importance of answering inquiries from the public and media during an emergency.

With the establishment of a separate Public Information Officers Course, this three-hour session is being expanded to four days, where course candidates receive separate training for the first two days and join with the ESM course for the last two days. This arrangement enables course candidates to work in positions where they apply their newly-learned skills to play a vital role in the ESM exercise.

During the course, candidates are divided into two groups, with one playing the part of information officers at the operations and site management centres, where they answer media and public inquiries, monitor the media and arrange news conferences. Candidates in the second group join those managing the exercise and ask difficult questions to keep everyone working at the maximum stress level, learning how to deal with the scores of questions which will be asked during the course of an emergency.

Further information about the Public Information Officers Course, particularly the results of the pilot project in May, will be included in an upcoming issue of *Insight*. Anyone interested in registering for the course is advised to do so early, as the number of participants will be limited to about 15 each time. The next Public Information Officers Course is scheduled for Nov. 14-17.

Candidates in the Anytowne Emergency Operations Centre weigh their response options.

Public affairs in an emergency

In an actual disaster situation, the Director of Communications at Alberta Public Safety Services is one of the first people to be notified. Depending on the severity of the emergency, the director either handles all the public and media inquiries or calls for additional staff available at all times through the provincial government's Public Affairs Bureau. In a major disaster situation, up to five permanently installed telephones are activated and manned on a 24-hour basis solely to look after public and media inquiries.

The same type of procedure is activated in the event of a sour gas release, when a team of public affairs officers is flown to the emergency operations centre to answer all inquiries. The plans allow for six telephone lines to be available at centres located near sour gas fields across the province. As with other types of disasters, all the operations are based on working continuously for as long as the emergency exists.

Formal plans for public affairs in an emergency have been made; they are exercised regularly and have been tested twice recently in real situations, including the spill of sodium dichromate in northeast Alberta last March.

Emergency Site Management:

A unique course is a disaster for candidates

by George Hennecke, Training Officer

"Alpha-two, you are directed to assume charge as the emergency site manager."

With this brief radio message to the senior police officer at the site of the simulated train wreck, Exercise Hot Box begins to unfold. According to concepts discussed earlier on the new Emergency Site Management (ESM) course offered by Alberta Public Safety Services (APSS), it will be the responsibility of Sgt. Ed Jones, in car Alpha-two, to co-ordinate the numerous response agencies into an effective response force.

Fire units, ambulances, rail emergency response units, onlookers, media, concerned relatives and countless others begin to converge on the derailment scene, and it quickly becomes apparent that control measures have to be instituted to manage the disaster site.

* * *

This scene is a typical part of the innovative Emergency Site Management (ESM) course being offered by the APSS Training School. The course, which was introduced last year, is believed to be the first program of its kind in Canada. It takes candidates from different areas of emergency response and drops them into the pressure cooker environment of a simulated disaster.

The Emergency Site Management course is designed to develop the ability of emergency response personnel to direct, control and co-ordinate the combined operations at a disaster scene. In particular, the course aims to familiarize candidates with the different functions and responsibilities of personnel responding to an emergency.

The course stresses the importance of such things as effective communications between different agencies at the site, the establishment of clear lines of authority, the co-ordinated commitment of special resources and their effective management, including consideration of cost and manpower expenditure, and working with the media at all levels of the disaster operation.

At a recent course, the 30 course candidates included representatives from the full spectrum of emergency response, including people from fire and police departments, ambulance and social services, major transportation agencies and public works management, as well as a number of elected and non-elected municipal officials. Anticipating a hectic schedule of lectures, hands-on syndicate studies and two major exercises, the group soon realized that this course requires some evening reading to digest the voluminous reference material made available to them. Guest lecturers were scheduled to speak on their personal experiences in recent disasters, giving the course

Stuart Black, a Training Officer with Alberta Public Safety Services, studies the simulation plot during an Emergency Site Management Course.

a blend of theory and practical experience accounts.

Supt. David Cassels of the Edmonton Police Department was one of the lecturers who candidly provided an account of taking charge of all operations in Edmonton's southside industrial park after the tornado in July 1987. He readily conceded that his response was not a textbook operation, but he left his audience with a lasting impression of the real need for one designated manager to "direct, control and co-ordinate" the site. It was advice the course candidates would soon get to follow as harried participants in Exercise Hot Box.

* * *

Exercise Hot Box, where ESM course candidates put theory into practice, involves a train derailment with burning tank cars and the possibility of chemcial vapor hazards to the inhabitants of the fictitious municipality of Anytowne, Alberta. In the exercise, the candidates act as designated officals ready to man the town's Emergency Operations Centre (EOC) at the town hall, where emergency contingency plans are reviewed to ensure the correct response will be followed when required.

The designated town manager starts by assembling his staff and service chiefs to reassert their mission of support to the various agencies assembled at the emergency site. As the organization at the derailment site grows, each response contingent of fire, police and ambulance activates its respective command post, drawn together by the site manager, who although a police officer, operates distinctly as the overall manager with a small support staff.

Each command post has an opposite member at the Emergency Operations Centre (EOC). In this manner, Fire Capt. Fred Billings at the fire command post acts as advisor to the site manager on fire-related matters, commands fire resources at the scene and remains in constant communication with his chief at the centre.

"EOC Fire Chief, this is 114 — I will require two additional pumpers at the northwest end of the train. Imperative we increase cooling water spray on the tank cars adjacent to the burning gasoline tank car."

"Roger 114, you will have two mutual aid units from Knowlton report to the northwest side of the train in figures 'one-zero' minutes . . ."

And so, in this way, requests for equipment, personnel, food and

Concepts of Emergency Site Management

In the event of a major disaster, the total resources of the municipality will require mobilization; the municipal emergency response will begin with the implementation of the municipal emergency plan. The concept of such an emergency operation can best be summed up with the following three definitions:

1. **Emergency Management** is the establishment of an overall plan of action which mitigates the effects of a disaster until the situation returns to normal. Two key elements are necessary in the management of emergencies at the municipal level: the municipal operations centre and the emergency site management.

2. **The Municipal Emergency Operations Centre (EOC)** is the predesignated place, equipped with extra communications facilities, where the emergency operations group assembles to co-ordinate the municipal response, usually when the municipal emergency plan is activated.

3. **The Emergency Site Manager (ESM)** controls operations at the site of an emergency. The manager and a small support staff are selected from emergency response agencies by the designated town manager at the EOC for each operation, to manage all resources within the defined boundaries of the emergency. Major disasters such as the tornado in Edmonton in 1987 require the appointment of more than one emergency site management team.

shelter requirements are passed from the responsible managers at the site to the EOC, where the requests are referred to agencies listed as resource contacts in Anytowne's emergency plan.

The pace of the exercise quickens as timely scenario inputs are added by the exercise co-ordinator and support staff, who enthusiastically act out situations of hysterical reports of missing relatives, noxious fumes, and any number of predetermined incidents which realistically could arise in such a disaster.

Meanwhile, the medical officer of health at the EOC becomes increasingly busy with sporadic reports of health-related incidents. Will the hospital be affected by these fumes? How many beds are free? Will the wind conditions change? Better get someone to monitor that situation.

By this time, the telephone company has just dropped a number of emergency lines at the site, so that each command post is now accessible from EOC by telephone. Unfortunately, someone leaked the site manager's telephone number to the media, and the centre is innundated with calls for news updates. "Organize a news conference and get these people off our lines," orders the site manager.

"EOC Public Works — this is Fire Capt. Billings at site. We have confirmed approximately 8,000 litres of gasoline spilled in the sewer system southwest of . . ."

The town manager is advised of this new crisis and holds a brief conference with the service chiefs. Evacuation plans are discussed. How do we advise the public? How large an area is affected? Decisions must be made to meet this particular threat immediately. Many questions arise, but fortunately the town's emergency plan provides the answers to many basic concerns.

Meanwhile, Public Works Manager Joe Peterson is frantically attempting to determine the natural flow of the sewer lines from the affected area to determine the extent of the evacuation zone. His worst fears are realized as he determines the entire downtown core is affected. This situation is serious; Joe makes his recommendations to the town manager. "Evacuate the area south of . . ."

Incident reports of complications, fuel requirements, drinking water contamination and numerous other radio and telephone transmissions create an unbearable noise level at both command centres. It makes for a pressure-cooker stressful atmosphere which realistically has a bearing on the ability of command personnel to function for extended periods of time. Pressure is further increased by inquiries from the media, reporters' attempts to interview key players in the command centres, bright, burning television-camera lights and general pandemonium created by people seeking answers. With lessons learned from the previous lectures and guest-speaker accounts, course candidates will deal with the interference and designate public information officers to satisfy the media's appetite for the latest information.

More than three hours later comes the welcome news: "ENDEX." The end of Exercise Hot Box is communicated to all players. After an exercise debriefing attended by all participants and staff, most wonder aloud how they would cope with the stress of a 56-hour real-time disaster situation. Indeed, after the next exercise is completed, no one needs convincing of the need for a follow-up session of critical incident stress debriefing presented by Bob van Goethem, Branch Head, Disaster Social Services.

Make a note . . .

The MIACC Annual Conference is scheduled for Nov. 29-30, 1989. Location to be announced.

The Major Industrial Accident Coordinating committee (MIACC) was established in 1987 to work towards preventing a Bhopal-type incident in Canada. Its members include senior representatives from federal and provincial government departments, industry and other interest groups.

Michael Salib was recently appointed the new full-time executive director of MIACC. He was seconded from his previous position with Transport Canada.

Local resident predicts a second flood in Slave Lake

Slave Lake resident Maurice Ridley is predicting his town will be hit by another flood this summer, somewhere between July 2 and 5, and it's all because of hoar frost. And if that sounds like nonsense, Mr. Ridley also predicted last summer's flood would occur, using the same theory.

Mr. Ridley, whose hobby is weather prediction, says every time hoar frost appears, rain will fall six months later. If he's right, it means trouble for Slave Lake because there was a three-day hoar frost in the area in early January. That means three days of continuous rain during the first week of July, Mr. Ridley says.

"I have my own ways of forecasting the weather by the sun and a few other things," Mr. Ridley says, "and I'm usually right."

Mr. Ridley learned his weather forecasting system from a good friend, a native Indian from the Alexander Reserve west of Morinville. The success of his system depends on close observation of seasonal changes and things like the moon.

"When there's a half moon that looks upside down, with two tails up in the air, it means no rain or snow. When the half moon is standing up with one tail up and one tail down, it means moisture is on its way," Mr. Ridley says. He predicted last winter would be a long, cold one by observing such things as the beavers building bigger houses, and the muskrats building their homes farther out into the lakes.

"You know, I listen to the weather every day on the radio and I have to laugh," he says. "They're usually wrong."

Rick MacWillian, The Edmonton Journal

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